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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THEODORE C. JOHNSON,
DANIEL J. BALBIERZ, and ROBERT M. PEARSON

Appeal 2008-0411
Application 09/916,214
Technology Center 3700

Decided: May 7, 2008

Before JAMESON LEE, TERRY J. OWENS, and RICHARD TORCZON,
Administrative Patent Judges.

Filed by TORCZON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The examiner rejected claims 38-42 and 45-71 for anticipation under 35 U.S.C. § 102(b) or, in the alternative, under 35 U.S.C. § 103(a) as having been obvious (Ans. at 4:9). The appellant (Johnson), seeks review under 35 U.S.C. § 134 (2002). We have jurisdiction under 35 U.S.C. § 6(b) (2002).

The examiner relies on the following prior art in rejecting the claims:

E.J. Gough ('484)	US Patent 5,800,484	1 Sept. 1998
E.J. Gough ('384)	US Patent 5,683,384	4 Nov. 1997

We REVERSE the anticipation and obvious rejections.

THE CLAIMS

The claims on appeal relate generally to an apparatus for performing ablative therapies to treat tumors using localized impedance measurements (Spec. at 2). We select independent claim 38 as broadly representative of the claims on appeal and reproduce it (from the Claim Appendix of the Appeal Brief, emphasis added) below:

An apparatus for impedance characterization and ablative treatment of tumors, comprising:

- an elongated delivery device including a lumen, the elongated delivery device being maneuverable in tissue; and
- an impedance array comprising a plurality of resilient members being positionable in the elongated delivery device in a compacted state and deployable with curvature into tissue from the elongated delivery device in a deployed state and defining a sample volume in the deployed state, at least two of the plurality of resilient members being a sensor member and including a sensor for determining impedance, *where each sensor member is operatively connected to a separate impedance energy source*, at least some of said resilient members being electrodes which can be coupled to at least one ablating energy source for ablating tissue when electrical energy is supplied to the electrodes from the ablating source;
- wherein said impedance array is effective to determine localized impedance.

ANTICIPATION UNDER § 102(b)

Issue

Did Johnson establish that the examiner erred in determining that the prior art anticipated each claim limitation of the patent application?

Findings of Fact

1. The Gough references disclose an ablative system that has one or more impedance sensors (Gough '384 patent, col. 6, ll. 48-50; Gough '484 patent, col. 5, ll. 20-23).
2. The Gough references disclose that impedance sensors are used to monitor and determine the level of ablative therapy to be used so that not too much of the surrounding tissue is destroyed (Gough '384 patent, col. 6, l. 66 to col. 7, l. 3; Gough '484 patent., col. 5, ll. 39-43).
3. The Gough references disclose a multi-antenna device where one or more sensors can be positioned on the exterior or interior of the primary or secondary antennas to detect impedance (Gough '383 patent, col. 4, ll. 44-46; Gough '484 patent Figure 3).
4. The Gough references disclose "an energy source" is connected to a multi antenna device (Gough '384 patent, col. 4, ll. 16-17; Gough '484 patent, col. 5, ll. 1-3).
5. The Gough references disclose "an energy source" for the arrays can be a radio frequency, microwave, short wave, or laser energy source, or

the like (Gough '384 patent, col. 6, ll. 35-47; Gough '484 patent, col. 5, ll. 3-10).

6. The Gough references disclose that the energy source may provide a combination of energies, specifically radio frequency and microwave energies (Gough '384 patent, col. 6, ll. 35-43; Gough '484 patent, col. 5, ll. 3-9).

Principles of Law

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Under the principle of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitation, it anticipates. *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002).

Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999).

During examination, claims are to be given their broadest reasonable interpretation consistent with the specification. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Analysis of Anticipation

Johnson argues that the references do not expressly or inherently disclose the claim limitation that each sensor is operatively connected to a separate impedance energy source (Br. at 3). The examiner agrees that the cited references do not expressly anticipate this contested claim, but goes on to explain that a separate energy source for each impedance sensor is inherently disclosed in the Gough references because different antenna arrays can have different energy sources (Ans. at 5).

We focus our analysis on the contested limitation, which we construe to mean that the impedance array has one or more impedance sensors, each of which is connected to a separate impedance energy source. The cited references used by the examiner have "an energy source" for the antenna array. The energy source may provide various types of energy, but the Gough references do not disclose a separate impedance energy source for each sensor (Findings 1-6). The examiner has not identified where the contested limitation is inherently disclosed in the Gough references.

The Gough references do not anticipate claim 38. The anticipation rejection is REVERSED.

OBVIOUSNESS UNDER § 103(a)

The examiner relies on the same two Gough patents as evidence of obviousness in rejecting the pending claims under 35 U.S.C. § 103 (Ans. at 6).

Issue

Did Johnson show the examiner erred in rejecting claims 38-42 and 45-71 as being directed to subject matter that would have been obvious in view of the cited prior art?

Additional Finding of Fact

7. A person of ordinary skill in the art knew that tumors could be treated by applying heat from various energy sources including radio frequency, microwave, and ultrasound energy sources (Gough '484 patent, col. 1, ll. 44-49; Gough '384 patent, col. 1, ll. 45-49).

8. The Gough '384 patent teaches an apparatus for ablative treatment that includes multiple sensors (Gough '384 patent, col. 6, ll. 35-43).

9. The Gough '484 patent teaches an ablative system similar to the '384 patent and adds a method of delivery of electrolytic solution to tumors (Gough '484 patent, col. 2, ll. 23-26).

10. The contested difference between the prior art and the subject matter of claim 38 is the claim limitation that the impedance array have at least two sensor members that includes a sensor for determining impedance, where each sensor member is operatively connected to a separate impedance energy source.

Principles of Law for Obviousness

In analyzing obviousness, the scope and content of the prior art must be determined, the differences between the prior art and the claims

ascertained, and the ordinary level of skill in the art resolved. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Mere conclusory statements will not support an obviousness rejection; instead, the examiner must articulate reasoning with some rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

Analysis for Obviousness

Johnson argues the Gough patents do not teach or suggest that the impedance array has the contested limitation that at least one impedance sensor member is operatively connected to a separate impedance energy source, nor would modifying the Gough device to have separate energy sources have been obvious to one skill in the art (Br. 7-9). The examiner has a different interpretation of the contested claim limitation. The examiner states that an energy source for each impedance sensor would have been obvious to one of ordinary skill in the art, and points out that both Gough references disclose a multi-sensor antenna array whereby an impedance sensor can be located on each antenna array. The examiner goes on to state that the energy source for each array maybe connected to different energy source. According to the examiner, the Gough references disclose the contested claim limitation (Ans. at 6).

The contested claim limitation discussed above in the anticipation analysis applies equally here. We conclude that the contested claim limitation requires a separate impedance energy source be operatively connected to at least one impedance sensor member of the array and the

cited references by the examiner do not satisfy this claim limitation. The examiner has not shown why someone of ordinary skill in the art prior to the application would have modified sensors like Gough's to have independent energy sources.

We conclude that Johnson has sufficiently demonstrated that the examiner erred in determining that claim 38 is obviousness over the Gough references. The obvious rejection is REVERSED.

CONCLUSION

The record does not support a finding of anticipation or a conclusion of obviousness in light of Gough '384 or Gough '484. Consequently, all the rejections on appeal are —

REVERSED

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